



3.0 FIELD SAMPLING AND ANALYTICAL PROGRAM

The field monitoring and sampling program included the monitoring of air quality during the drilling of the caissons to ensure compliance with SCAQMD Rule 1166 and to address potential worker exposure issues. A limited soil sampling program was also implemented to assess the lateral extent of impacted soil along the pipeline easement. Due to access constraints, soil sample collection was limited to an east-west direction along the retaining wall footing. The field sampling and analytical program is described in more detail below.

3.1 AIR QUALITY MONITORING

PAS were first encountered during the drilling of caisson 18 (Figure 3). This caisson is located approximately 307 feet east of Western Avenue, along the southern boundary of the C-6 Facility. Since field measurements of airborne organic vapors exceeded 50 ppm in air, the SCAQMD and the LARWQCB were notified.

Ecology Control Industries, Inc. (ECI) of Torrance, California was contracted by IESI to perform SCAQMD Rule 1166 monitoring while the retaining wall was being constructed. Air quality monitoring was performed by ECI from February 2nd to February 9th 2000. Monitoring was conducted using a calibrated photo-ionization detector (PID) or organic vapor analyzer (OVA) at least every 15 minutes while the caisson boreholes were being augered.

Ambient air samples were also collected by IESI from 4 locations along the construction zone using summa canisters for the purpose of assessing air quality in the work area.

3.2 SOIL SAMPLING

A total of 16 soil samples were collected. 2 samples were collected from drill cuttings generated during the caisson installation. An additional 14 samples were also collected from shallow borings installed with hand-auger equipment. Sample collection depths ranged from 2 feet bgs to approximately 14 feet bgs. Soil types encountered were generally fine grained.

Due to the presence of the buried pipelines a few feet to the north of the retaining wall, and private properties to the south, soil samples were only able to be collected from the immediate area of the retaining wall (in a east-west direction). Soil sample locations are presented in Figure 3.

Soil sampling locations were selected based upon field observations and PID/OVA monitoring results during the drilling of the caissons. Samples were collected to characterize the type of chemicals and their distribution in an east-west direction, in the shallow subsurface.



3.3 ANALYTICAL METHODS

4 ambient air samples were submitted to the Apollo Analytics, Inc. (AAI) for analysis by the following methods:

- Total petroleum hydrocarbons (TPH) as gasoline by EPA method 8015M.
- Volatile organic compounds (VOCs) using EPA method TO14.

14 soil samples were submitted to Orange Coast Analytical Services, Inc. (OCI) for analysis by the following methods:

- TPH/ gas, diesel, and motor oil by EPA method 8015M (14 samples).
- Pesticides by EPA method 8080 (2 Samples)
- TPH-carbon chain identification by EPA method 8015M (13 samples)
- Total recoverable petroleum hydrocarbons (TRPH) by EPA method 418.1 (8 samples)
- VOCs by EPA method 8260 (11 samples)
- Benzene, toluene, ethyl benzene, and total xylenes (BTEX) by EPA method 8020 (1 sample)

2 soil samples were submitted to Friedman and Bruya, Inc. (FBI) for analysis by the following methods:

- Fuel fingerprinting and weathering analysis by gas chromatograph flame ionization detector / electron capture detector (GC/FID GC/ECD)